

Abstract

A method and apparatus are arranged to provide increased sensitivity for a temperature sensor in an integrated circuit such that the accurate temperature sensing is achieved over a broad temperature range. A temperature sense signal from a VPTAT
5 circuit is coupled to a level shifter to provide a level shifted signal. The level shifted signal is coupled to a gain block to provide an output signal with increased signal amplitude. The output signal is fed to an analog-to-digital converter (ADC) that is in communication with control logic. The control logic dynamically adjusts at least one parameter associated with the level shifter circuit and/or the gain block to maximize the
10 dynamic range associated with the temperature sense signal.

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